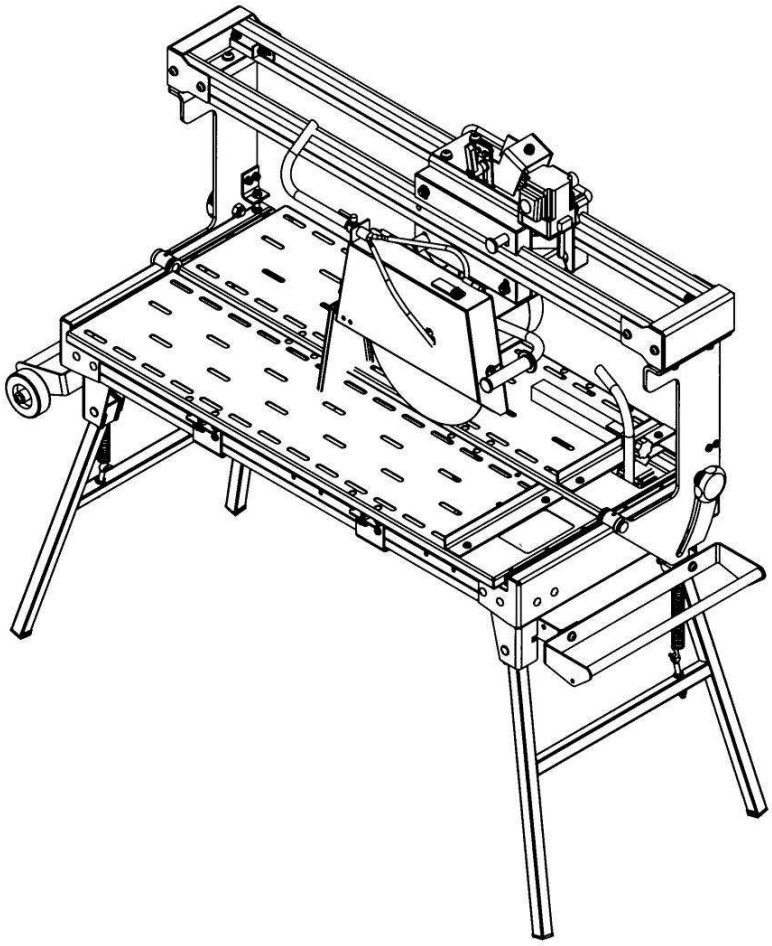


CST 65 / 85 / 100 MODULO

OPERATING INSTRUCTIONS

CE Declaration of conformity

The undersigned manufacturer:

SAINT - GOBAIN ABRASIVES S.A.
190, BD J.F. KENNEDY
L- 4930 BASCHARAGE

Declares that this product:

Masonry Saws:	***CST 65 Modulo 230V***	Code: ***70184620265***
	CST 85 Modulo 230V	***70184620266***
	CST 100 Modulo 230V	***70184620024***

is in conformity with the following Directives:

- ***European Machinery Directive 2006/42/EC***
- ***"LOW TENSION" 73/23/CEE***
- ***Electromagnetic Compatibility Directive 2004/108/EC***

and European standard:

- ***EN 12418 – Masonry and stone cutting-off machines – Safety***

Pierre Mersch
Business Manager Machines Europe

CST
OPERATING INSTRUCTIONS AND SPARE PARTS LIST

1 Basic Safety Instructions 6

1.1 Symbols 6
1.2 Machine plate 7
1.3 Safety instructions for particular operating phases 7

2 Machine description 8

2.1 Short description 8
2.2 Purpose of use 8
2.3 Layout 8
2.4 Technical Data 10

3 Assembly and commissioning 12

3.1 Tool assembly 12
3.2 Handle assembly 12
3.3 Electrical connections 12
3.4 Starting the machine 12
3.5 Water cooling system 13

4 Transport and storing 14

4.1 Securing for transport 14
4.2 Transport procedure 14
4.3 Long period of inactivity 14

5 Operating the machine 15

5.1 Site of work 15
5.2 Cutting material 15
5.3 General advice for the cutting 16

6 Maintenance and servicing 17

7 Faults: causes and cures 18

7.1 Fault-finding procedures 18
7.2 Trouble-shooting guide 18
7.3 Customer service 22

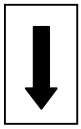
1 Basic Safety Instructions

The CST is exclusively designed for the cutting of construction products mainly on construction sites.

Uses other than the manufacturer's instructions shall be considered as contravening the regulations. The manufacturer shall not be held responsible for any resulting damage. Any risk shall be borne entirely by the user. Observing the operating instructions and compliance with inspection and servicing requirements shall also be considered as included under use in accordance with the regulations.

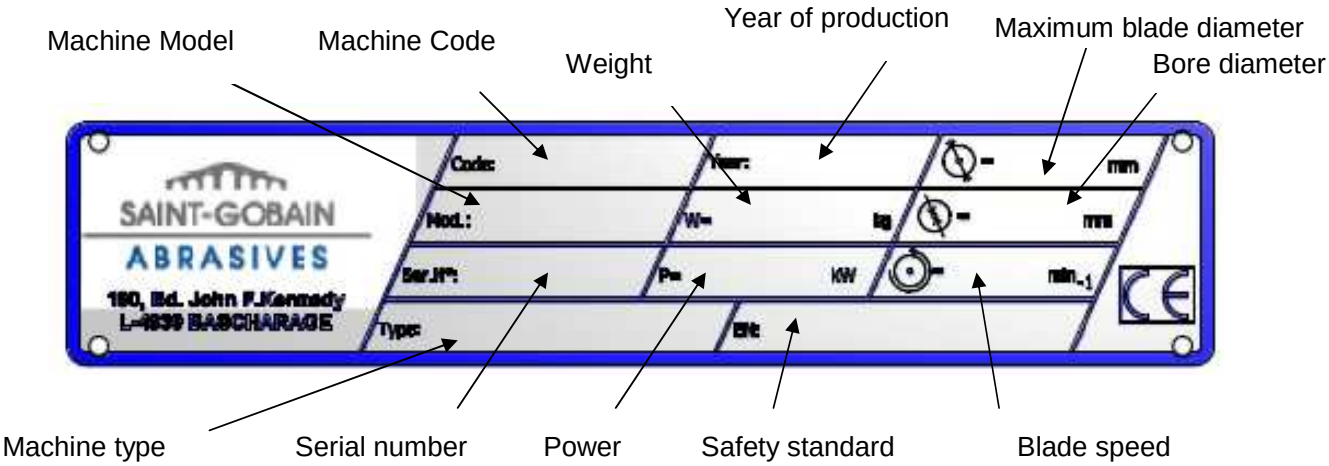
1.1 Symbols

Important warnings and pieces of advice are indicated on the machine using symbols. The following symbols are used on the machine:

Read operator's instructions		Ear protection must be worn
Hand protection must be worn		Eye protection shall be worn
		
Rotation direction of the blade		
Danger: risk of cut		Never move the machine with the blade running idle.

1.2 Machine plate

Important data can be found on the following plate located on the machine:



1.3 Safety instructions for particular operating phases

Before commencing work

- Before commencing work, make yourself familiar with the working environment at the place of use. The working environment includes: obstacles in the area of work and manoeuvre, the firmness of the floor, necessary protection at the site relating to public thoroughfares and the availability of help in the event of accidents.
- Check for correct mounting of the blade regularly.
- Immediately remove damaged or badly worn blades, as they endanger the operator whilst rotating.
- Only fit NORTON diamond blades to the machine! The use of other tools can damage the machine!
- Attention is drawn to the use of BS2092 safety goggles in conformity with specified Processes No.8 of the Protection of Eyes Regulation 1974, Regulation 2(2) Part 1.
- For security reasons, never leave the machine unattended, untied or unlocked.

While the engine is running

- Do not move the machine whilst the blade is running idle.
- Always cut with the blade guard in position.
- Apply cooling water continuously whilst cutting and in good time!

Petrol powered machines:

- Always use the fuel advised.
- In confined areas, exhaust gases should be evacuated and the job site properly aerated.
- Petrol and diesel machines, which by their nature emit toxic exhaust gases, must not be used in places prohibited by the Health at Work etc. Act 1974 or which are prohibited by Factory Inspectors or Safety Officers.
- Fuel is flammable. Before filling the tank, shut down the engine, extinguish all open flames and do not smoke. Take care that no petrol is spilled on any motor part. Always wipe up spilled fuel.

2 Machine description

Any modification, which could lead to a change in the original characteristics of the machine, may be done only by Saint-Gobain Abrasives who shall confirm that the machine is still in conformity with the safety regulations.

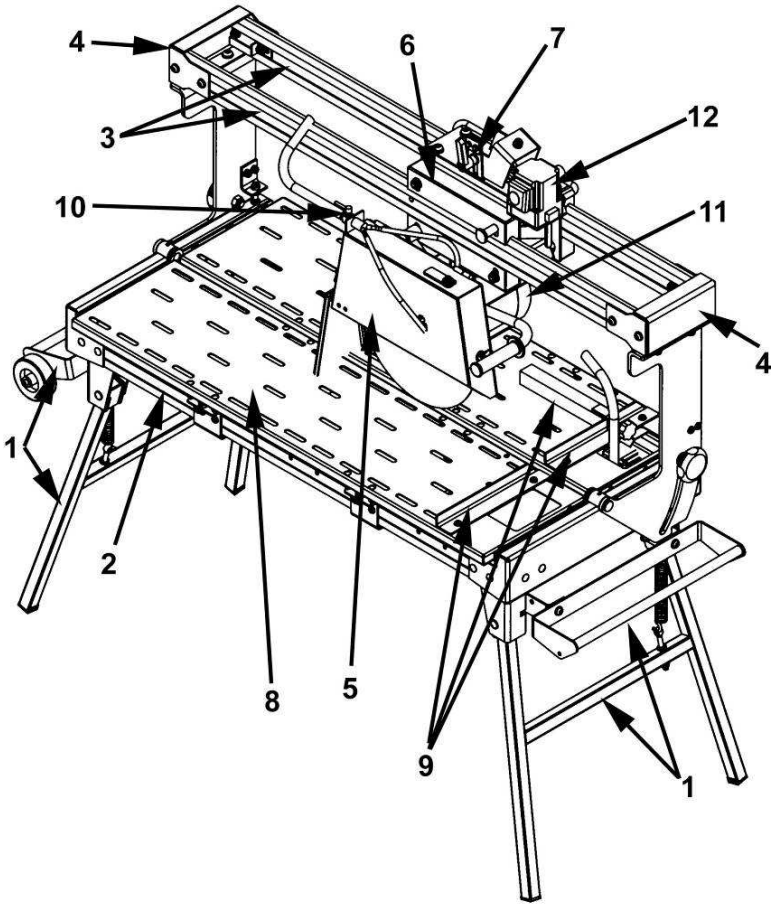
2.1 Short description

The CST block saw is designed for durability and high performance for onsite wet and dry cutting operations of a wide range of masonry, refractory and natural stone products.
As with all other NORTON products, the operator will immediately appreciate the attention given to detail and quality of materials used in construction. The machine and its component parts are assembled to high standards assuring long life and minimum maintenance.

2.2 Purpose of use

The machine is designed for cutting a large range of building and refractory materials like tiles, stair step or window sill. It is not designed for cutting wood or metals.

2.3 Layout



Foot and handles (1)
The jig-welded, reinforced and all-steel construction feet ensures perfect stability. Precision springs allow the feet to be folded up. Handles can be used for the transport of the machine when the feet are folded up, and for locking the feet when the machine is standing on its feet.

Frame (2)
Built in aluminium profile, the frame is light and resistant. The welded-steel side of the machine ensure that the axles are parallel to the table. The axle assembly can also be tilted until 45º to make bevel cuts. The head axles (3) made of aluminium, guide the cutting head over the table. The head consoles (4) ensure the parallelism of the two axles, and rigidity of the assembly.

Blade guard (5)
Jig-welded steel construction with 350mm-diameter blade capacity, which offers maximum operator protection and increased visibility of the work piece.
Incorporated in the blade guard is an outer metal cover, which can be easily hinged opened. This allows easy access to shaft for inspection and blade replacement when motor is switched off, while fully protecting the blade when in operation.

Cutting head (6)
Jig-welded steel console. Console supports the electric motor and the blade guard. The movement of the cutting head on the axles involves nylon wheels. The balancing of the cutting head is achieved using a heavy-duty spring. A depth-locking device (7) fixed over the cutting head enables the operator to set the cutting head to desired or to maximum cutting depth.

Down feed and cutting depth adjustment
The spring-loaded cutting head, activated by hand with the grip over the blade guard ensures smooth lowering of the cutting head for shock-free penetration of the work piece and improved control of the cutting pressure.

Cutting table (8)
Large, heavy-duty table fitted with water flow-control vents. The table is equipped with backstops and a guide-a-cut device (9).

Water cooling system (10)
The coolant system comprises:
- A powerful, submersible electrical water pump.
- Plastic suction pipe delivering the water from the water pan to the cutting head.
- A large capacity aluminium water pan supplied with drain plug.
- A water-tap, fitted to the blade guard, permitting controlled water flow.
- Two water nozzles located on both side of the blade guard ensure adequate flow of water to both sides of the cutting blade.

Electrical Motor (11) and switch (12)
Leroy-Somer motor with 2,2kW. Low voltage trigger (NVR) built in the switch prevents the motor to restart for example after a power cut.
The electric motor has an overload protection. Thermal overload tripping can occur for two reasons:
a. tripping under light load
   If connection is incorrect
b. tripping under heavy load
   If motor has been overloaded

2.4 Technical Data

Electric motor protection	IP54
Max. blade diameter	350 mm
Bore	25,4 mm
Flange diameter	90 mm
Cutting depth mm	110 mm (without reversing the material)
Sound pressure level	73 dB (A) (following ISO EN 11201)
Sound energy level	87 dB (A) (following ISO EN 3744)

CST65

Code	70184620265	70184620267	70184620271
Power	2,2 kW	2,2 kW	3 kW
Tension	230V 1~	115V 1~	400V 3~
Cutting length	650 mm		
Rotation speed of the blade	3000 min-1		
Length	1330 mm		
Width	660 mm		
Height (with feet)	1550 mm		
Height (without feet)	905 mm		
Water pan capacity	25 l		
Weight (total)	120 kg	120 kg	122 kg
Weight (with water)	145 kg	145 kg	147 kg

CST85

Code	70184620266	70184620268	70184620272
Power	2,2 kW	2,2 kW	3 kW
Tension	230V 1~	115V 1~	400V 3~
Cutting length	850 mm		
Rotation speed of the blade	3000 min-1		
Length	1530 mm		
Width	660 mm		
Height (with feet)	1550 mm		
Height (without feet)	905 mm		
Water pan capacity	30 l		
Weight (total)	127 kg	127 kg	129 kg
Weight (with water)	157 kg	157 kg	159 kg

CST100

Code	70184620024	70184620270	70184620273
Power	2,2 kW	2,2 kW	3 kW
Tension	230V 1~	115V 1~	400V 3~
Cutting length	1000 mm		
Rotation speed of the blade	3000 min-1		
Length	1680 mm		
Width	660 mm		
Height (with feet)	1550 mm		
Height (without feet)	905 mm		
Water pan capacity	35 l		
Weight (total)	134 kg	134 kg	136 kg
Weight (with water)	169 kg	169 kg	171 kg

3 Assembly and commissioning

The machine is delivered fully equipped (although without diamond blade) and is ready for operation after assembly of the blade and the handles, and connection to the appropriate power supply.

3.1 Tool assembly

Only NORTON blades with a maximum diameter of 350 mm can be used with the CST.
All tools used must be selected with regard to their maximum permitted cutting speed for the machine's maximum permitted rotation speed.
Before mounting a new blade into the machine, switch off the machine and isolate it from the main source of electricity.

To mount a new blade, follow these steps:

- Open the outside cover of blade guard by loosening the two knobs on the side of the guard.
- Loosen the hexagonal nut (Caution: left-threaded) on the blade shaft, which holds the removable outer flange.
- Remove the outer flange.
- Clean the flanges and blade shaft and inspect for wear.
- Mount the blade on arbor ensuring that direction of rotation is correct. Wrong direction of rotation blunts the blade quickly.
- Replace outer blade flange.
- Tighten hexagonal nut with spanner supplied for this purpose.
- Shut retractable blade guard cover and tighten the two knobs.

The blade bore must correspond exactly to the diameter of the blade shaft. Cracked or damaged bore is dangerous for the operator and for the machine.

3.2 Handle assembly

To prevent the handles to be damaged during transportation, they are disassembled from the machine. You can reassemble them by using the M10x25 screws supplied with the machine.

3.3 Electrical connections

Check that,

- the voltage/phase supply corresponds to the information indicated on the motor plate.
- Available power supply must have ground connection in conformity with safety regulations.
- The connecting cables should have at least a 2.5mm^2-section per phase.

3.4 Starting the machine

230V or 115V Motor

Open the switch cover and press the green button to start the machine. To stop either use the red button or press directly on the switch front cover.

400V Motor

The direction of rotation is indicated on the blade guard. If the direction of rotation does not correspond to the direction shown by the arrow, then reverse the motor polarity by turning the phase inverter inside the male plug with a screwdriver.

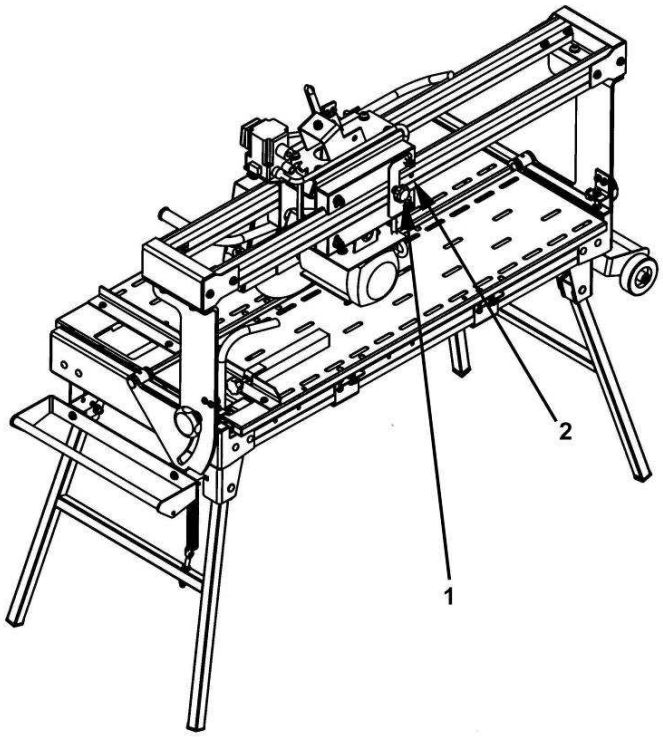
3.5 Water cooling system

Fill the water pan with clean water to approximately 2cm from top (ensure that bottom of pump is fully immersed in water). Use the pump switch so you can use the pump.
Open water-tap at blade guard (note that handle on water-tap should be in line with water-flow).
Ensure that water is flowing freely in the circuit and is delivered adequately to both sides of the blade, as insufficient water supply may result in premature failure of the diamond blade.
The water pump must never run without water. Always make sure that there is enough water in the pan and refill if necessary.
In case of frost, empty the water cooling system from its water.

4 Transport and storing

4.1 Securing for transport

Before transporting or lifting the machine, always remove the blade and empty the water pan. Also lock the cutting head on the axles. To do so, move the head so, that the screw (1) is facing the hole (2). Then tighten the screw until it enters the hole and prevent the cutting head from moving.



4.2 Transport procedure

The machine can be moved on a flat surface using its wheels. You must first fold away the feet. Two operators are required for this. Lift the rear handle and push lightly on the rear foot of the machine with your foot. The foot of the machine will automatically fold away. You can then put the rear of the machine on the floor. Then proceed the same way with the front foot.

4.3 Long period of inactivity

If the machine is not going to be used for a long period, please take the following measures:

- Completely clean the machine
- Empty the water system
- Take the water pump out of the slurry and clean it thoroughly.

The storage site must be clean, dry and at a constant temperature.

5 Operating the machine

5.1 Site of work

5.1.1 Siting the machine

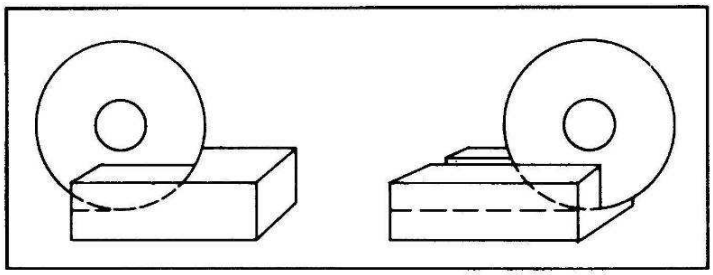
- Remove from the site anything, which might hinder the working procedure!
- Make sure the site is sufficiently well lit!
- Observe manufacturer's conditions for connecting to power supplies!
- Place electric cables in such a way that damage by the device is excluded!
- Make sure you have a continual adequate view of the working area so you can intervene in the working process at any time!
- Keep other staff out of the area, so you can work securely.

5.1.2 Space required for operation and maintenance

Leave 2 m around the machine for usage and maintenance of the CST.

5.2 Cutting material

To use the machine correctly, you must face it with one hand on the handle of the cutting head, and the other ready to shut the machine down in case of emergency. Always keep your hands away from the moving blade.



- Lower the cutting head to the desired cutting depth (in “through cutting”, lower cutting head until blade periphery reaches max. 3mm under the surface of the conveyor cart) by means of the handle over the cutting head
- Fix position by tightening the clamping device over the blade guard
- Put material on the table
- Push the cutting head slowly and without undue pressure towards the material and cut the material as shown on the picture.
- You can also cut thicker material by reversing the material on the table.

NOTE: While recommended, it is not absolutely necessary to lock the cutting head into a given depth position when jam cutting. The desired cutting depth can be maintained by holding firmly the depth feed handle on the blade guard. If the full depth of cut requires excessive pressure (on very dense material e.g.) make 2 or 3 shallow cuts.

5.3 General advice for the cutting

- Material weighting under 30 kg and having dimensions smaller than 650x660x220mm for the CST65, 850x660x220mm for the CST85, 1000x660x220mm for the CST100 can be cut with the machine.
- Before commencing work make sure tools are firmly seated!
- Select the right tools as recommended by the manufacturer depending on the material to be worked, the working procedure (dry or wet cut) to be carried out and the required efficiency.
- Apply cooling water continuously whilst cutting and in good time! Make sure the water pan contains enough water.
- When dry cutting, ensure sufficient dust extraction and wear a dusk protection mask!
- When cutting work is finished, switch the water pump off so you can remove the cut pieces from the conveyor cart without getting wet.

If the thermal protection trips, allow the thermal protection to cool down. Wait a few minutes to allow the motor to cool down before restarting the machine.

6 Maintenance and servicing

To ensure a long-term quality from the cutting with the CST, please follow the maintenance plan below:

		Begin of the day	During the changing of tool	End of the day or more often if required	Every week	After a fault	After a damage
Whole machine	Visual control (general aspect, watertightness)	■				■	■
	Clean			■			
Flange and blade fixing devices	Clean	■	■				
Motor cooling fans	Clean			■			
Water pump	Clean			■			
Water pan	Clean			■			
Cutting table	Clean			■			
Water hoses and nozzles	Clean			■			
Water pump filter	Clean			■			
Cart guiding bars	Clean			■			
Motor housing	Clean				■		
Reachable nuts and screws	Tighten up				■		

Maintenance of the motor

Always perform the maintenance of the motor with the machine isolated from the electrical supply.

Cleaning of the machine

Your machine will last longer if you clean it thoroughly after each day of work, especially water pump, water pan, cutting head axles, motor and blade flange.

Never use acid-based cleaning products, as the aluminium parts (water tray, axles, motor housing, frame) can be corroded by these cleaning products. Always clean the machine when any cutting dust and debris is still fresh, never allow the deposits to solidify.

Lubrication

The CST uses life-lubricated bearings. Therefore, you don’t need to lubricate the machine at all.

7 Faults: causes and cures

7.1 Fault-finding procedures

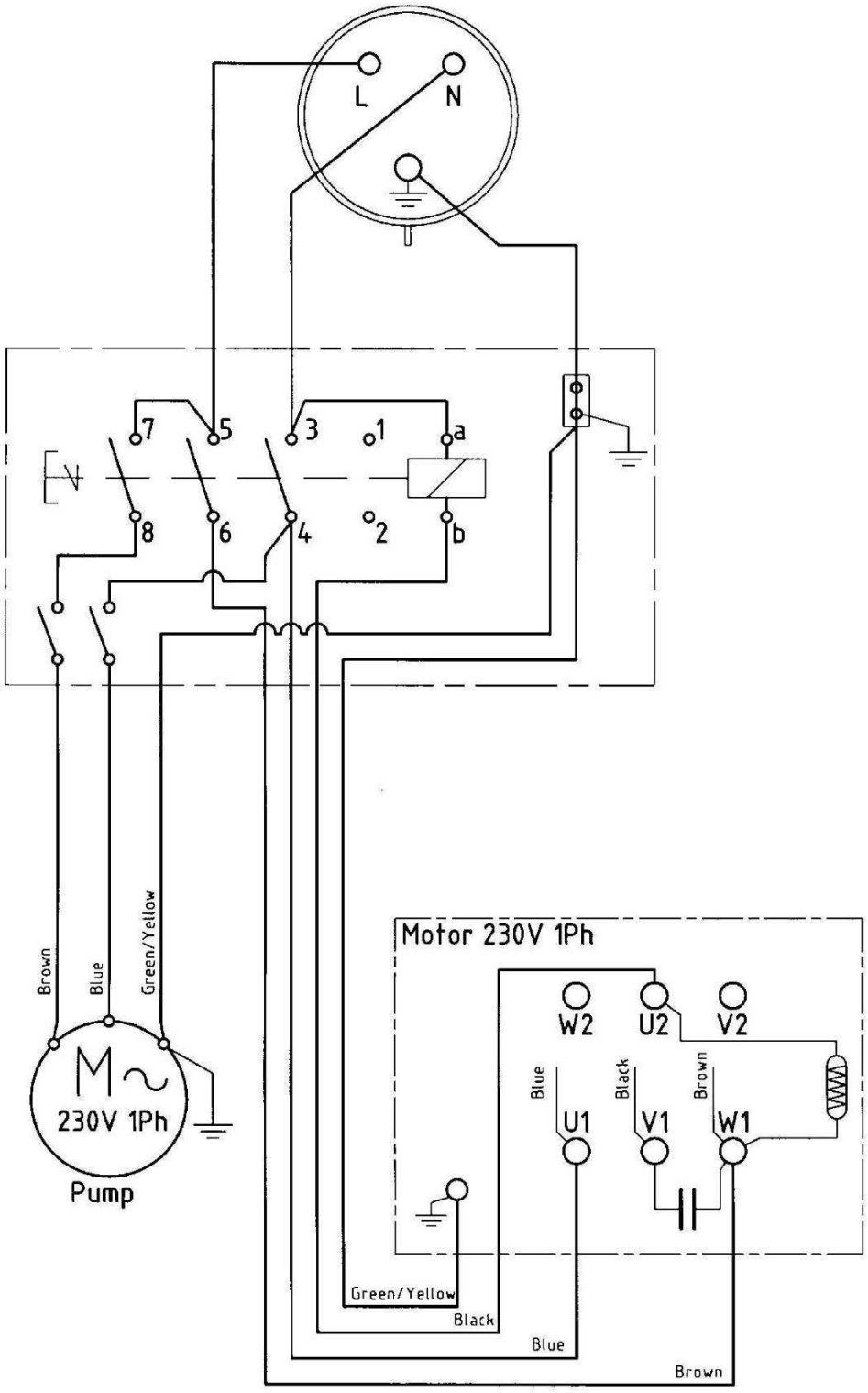
Should any fault occur during the use of the machine, turn it off, and isolate it from the electrical supply. Any works dealing with the electrical system or supply of the machine can only be carried out by a qualified electrician.

7.2 Trouble-shooting guide

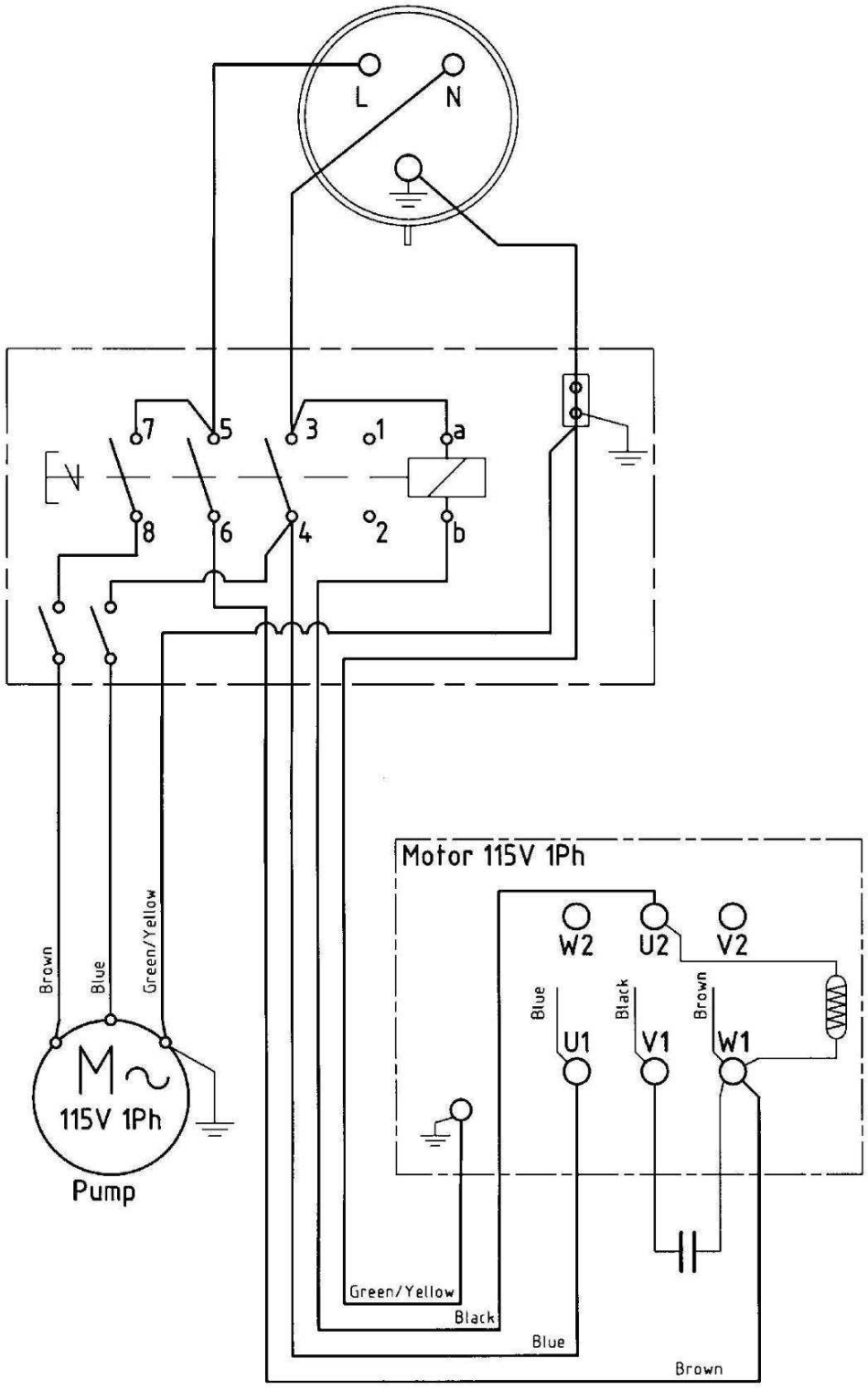
Trouble	Possible source	Resolution
Motor is not running	No electricity	Check the electrical supply (fuse for example)
	Connection cable section too small	Change connection cable
	Defective connection cable	Change connection cable
	Defective switch	CAUTION : can only be solved by qualified electrician
	Defective motor	Change motor or contact motor manufacturer
Motor stops during the cutting, but can be restarted after a short period (overload protection)	Cutting advance too quick	Cut slowly
	Blade is blunt or glazed	Sharpen the blade in calcareous stone
	Defective blade	Change blade
	Wrong blade specification for the application	Change blade
No water on the blade	Water pump switched off	Switch on the water pump
	Not enough water in the pan	Refill the water pan
	Water tap is closed	Open tap on blade guard
	Water supply system is blocked up	Clean water supply system
	Water pump is not working	Change the pump

Circuit diagram

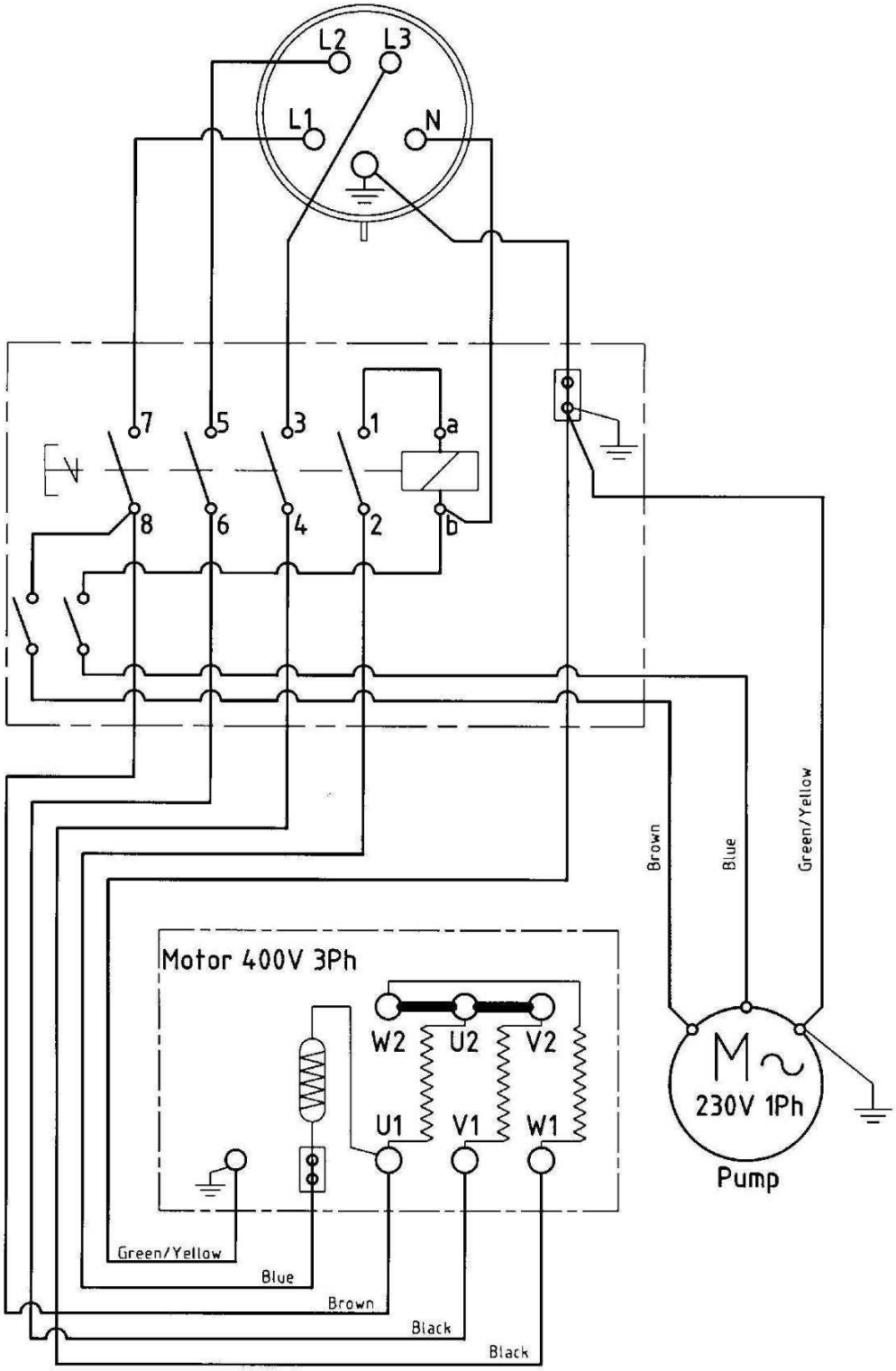
230V Motor



115V Motor


L
N
7
5
3
1
a
8
6
4
2
b
Brown
Blue
Green/Yellow
115V 1Ph
Pump
Motor 115V 1Ph
W2
U2
V2
Blue
Black
Brown
U1
V1
W1
Green/Yellow
Black
Blue
Brown

400V Motor


L2
L3
L1
N
7
5
3
1
a
8
6
4
2
b
Brown
Blue
Green/Yellow
Motor 400V 3Ph
W2
U2
V2
U1
V1
W1
M
230V 1Ph
Pump
Green/Yellow
Blue
Brown
Black
Black

7.3 Customer service

When ordering spare parts, please mention:

- The serial number (7 digits).
- The code of the part.
- The exact denomination.
- The number of parts required.
- The delivery address.
- Please indicate clearly the means of transportation required such as "express" or "by air". Without specific instructions, we will forward the parts through the means which seem appropriate to us --- but which is not always the quickest way.

Clear instructions will avoid problems and faulty deliveries.
If not sure, please send us the defective part.
In the case of a warranty claim, the part must always be returned for evaluation.
Spare parts for the motor can be ordered with the manufacturer of the motor or with their dealer, which is often quicker and cheaper.

This machine has been manufactured by Saint-Gobain Abrasives S.A.
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Guarantee can be claimed and technical support obtained from your local distributor where machines, spare parts and consumables can be ordered as well:

Benelux and France:
From Saint-Gobain Abrasives S.A.
Free telephone numbers:
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